

## REMARKS

Claims 1-20 are currently pending. Claims 9-20 are allowed, and claims 1-8 are again rejected by the Office. Applicant requests reconsideration in order to place the application in condition for allowance. No claims have been amended and no new matter is added.

### *Statement of the Substance of the Interview (MPEP713.04)*

An examiner interview was conducted this application as follows.

- 1) A telephonic interview was conducted on Dec. 18, 2006 between Attorney Asmus and Examiner Kathleen Duda. Applicant thanks the Examiner for courtesy of the interview.
- 2) Claim 1 was discussed and in particular the 'means plus function' limitation of claim 1.
- 3) Examiner Duda suggested that the present response be filed and that she would forward for Quality Control review.

Applicant agrees that this matter should be presented to Quality Control as the present claims recite 'means plus function' language that appears to be within the framework established by the courts and meets the requirements set forth in the MPEP. The specification and prosecution history has been clear in defining and claiming the 'means for developing' limitation and the corresponding lithographic structure.

Following the en banc *In re Donaldson* decision by the Court of Appeals for the Federal Circuit (CAFC), the Office issued guidelines (see <http://www.uspto.gov/go/og/con/files/cons089.htm>) for interpreting 35 USC 112, paragraph 6, "means or step plus function" language in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof. Pursuant to these guidelines and the corresponding analysis therein, the prior art element is not an equivalent unless it performs the identical function. And, the examiner has the initial burden of proof for "showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function." While there has been some confusion in the courts when the

meaning of the claims was ambiguous – there is no ambiguity in the present claims. The courts continue to uphold the ‘means plus function’ claims when they set forth proper bounds, and Claim 1 of the present application claims that which is described in the specification.

The Applicant asserts that Office has not performed the required ‘means plus function’ analysis set forth in the MPEP and the guidelines, but rather has peripherally stated in the Response to Arguments that the ‘means for developing’ of claim 1 “is a process limitation on a product claim. The patentability of a product does not depend on its method of production. The prior art does teach the structure of the claimed multi-layered product.”

Therefore, the Office appears to be applying the Product-by-Process claim rejection, and Applicant submits that the Office has not gone through the means plus function analysis to determine the applicability of the limitations recited in the claims. The Office has concluded, without supporting arguments, that the ‘means for developing’ is a process limitation for the product claim and disregarded further analysis.

Since the rejection is not clear, Applicant has not been provided with an opportunity to set forth appropriate arguments. Applicant believes that the ‘means for developing’ functional limitations are not merely steps in the lithographic process when considered in light of the specification. And, that the claim elements recite the means for developing function with specific clarity such that there is no subsequent modifying.

The patent laws allow claim limitations to be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof. Such a claim limitation is then literally construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. Claim construction, such as under the Doctrine of Equivalents, varies depending upon the manner in which a claim is presented. Thus, the proper basis for rejection is an important consideration and the Quality Control of the patent system is dependent upon a consistent approach in conformity with the legal and administrative precedents.

If the rejection by the Office in the Final Office Action dated 9/22/2006 is based upon the second prong analysis under the 35 USC 112, 6<sup>th</sup> paragraph guidelines – Applicant respectfully requests that the Office specifically recite this as the basis for the rejection and provide the Applicant a proper opportunity to respond to this new rejection. If the rejection is based upon the third prong analysis – Applicant requests an opportunity to remove any language deemed modifying or set forth appropriate arguments. But, without an appropriate rejection, Applicant has not been provided an opportunity to respond and cure any such rejection.

Applicant respectfully requests reconsideration based on Quality Control for setting forth proper basis for the rejection and withdraw the finality of the present Final Office Action so that the Applicant can prepare an appropriate response.

Furthermore Applicant requests reconsideration of the ‘means for developing’ limitation as the functional limitations imparted therein appear to define distinctive structural characteristics, namely that the “first resist latent image area” is covered by the opaque barrier layer. The first resist latent image area is exposed but not developed whereas all the cited references are exposed and developed before any subsequent layers. The intermediate state of having the first resist latent image area covered by the barrier layer is considered by the Applicant to be a distinguishing feature and reconsideration and allowance is respectfully requested.

#### **Claims Rejections - 35 USC §102**

The Office has maintained the rejection of claims 1-8 under 35 U.S.C. Sec. 102(b) as being anticipated by newly cited references Kaule (U.S. 2006/0141385) or Borodovsky (U.S. 2005/0074698). It should be noted that the Applicant does not acquiesce to these as prior art references.

The requirements for a rejection based on 35 U.S.C. Sec. 102(b) have already been recited. The prior rejection based on Canavello and Jennison in the Office Action dated 10/18/2005 was traversed, however the new rejection is based on the lithographic structure itself and the references allegedly have similar layers. Applicant has considered these new references and new basis of rejection, and respectfully disagrees.

The Office alleges that Claims 1-8 recite a “structure which comprises a substrate, first resist layer with a latent image, opaque barrier layer and a second resist layer with a latent image.” This inaccurately portrays the elements of claim 1. Claim 1 actually recites:

a first resist layer with a first surface coupled to said substrate, said first resist layer having a first resist latent image area;  
an opaque barrier layer on a second surface of said first resist, said opaque barrier layer covering said first resist latent image area;  
a second resist layer coupled to said opaque barrier layer, said second resist layer having a second resist latent image area; and  
a means for developing said multi-layered lithography structure wherein said first resist layer is exposed prior to depositing said opaque barrier layer, wherein said first resist latent image area is developed subsequent to said second resist latent image area, and wherein a barrier layer developed area is removed prior to developing said first resist latent image area.

As noted herein, Claim 1 of the present invention recites a first resist layer which is exposed **BUT NOT DEVELOPED** thereby leaving the first resist latent image area. The opaque barrier layer then covers the first resist latent image area. This is a structural distinction between the present structure and all prior references. The cited references do NOT cover the first resist latent image area, rather, this first resist layer is exposed and developed prior to subsequent processing.

There is a second resist layer; the second layer is exposed and developed; the barrier layer is then etched and then the first resist layer is finally developed. However, the first resist

layer has a latent image claimed in the structure that is exposed and not developed that is distinct from the cited references. Furthermore, the means for developing the structure distinguishes the present invention from all cited references.

And, it is noted that even the Office clearly acknowledges that the cited references **DO NOT** employ the structure having the first latent image area covered by a barrier layer or the means for developing as the claimed invention. In particular, the Office states that “Kaule teaches an exposed substrate which comprises a substrate with a resist layer which is exposed and **developed** and a second resist layer which is exposed and developed.” (emphasis added)

Furthermore, the Office also admits that “Borodovsky teaches a lithography process which produces a structure with a first developed photoresist and a second developed photoresist (claim 11). Claim 15 teaches a barrier layer between the two photoresist layers.” Thus, the Office acknowledges that Borodovsky **develops the first layer after exposing** and does **NOT** leave the latent image in the resist. (see Borodovsky Fig. 7)

In addition, as noted herein, the Applicant has included a means plus function limitation which is part of the claim 1 elements. **The means plus function defines a claim limitation, such as the means for developing, by what it does rather than by its structure.** As noted in MPEP Section 2180, “means or step plus function limitation should be interpreted in a manner consistent with the specification disclosure. If the specification defines what is meant by the limitation for the purposes of the claimed invention, the examiner should interpret the limitation as having that meaning.”

The Applicant has consistently noted that the claimed multi-layered lithography structure and the means for developing the structure is clearly and explicitly described in the specification, shown in the figures in a step-by-step detail, and in the prosecution history. The Applicant believes that the Office has not properly considered the means plus function limitation in claim 1, in the manner detailed in MPEP Section 2183. The Office has also promulgated guidelines for means plus function evaluation available at <http://www.uspto.gov/go/og/con/files/cons089.htm>.

According to the 3-Prong Analysis in the Guidelines, the Office has not properly explained this portion of the rejection as to the means for developing the multi-layered lithography structure wherein the first resist layer is exposed prior to depositing the opaque barrier layer, wherein the first resist latent image area is developed subsequent to the second resist latent image area, and wherein a barrier layer developed area is removed prior to developing the first resist latent image area.

Applicant respectfully requests reconsideration and allowance.

As previously acknowledged by the Office, one of the distinguishing features of the present invention is that the present invention does not patternwise expose the first resist layer to form a latent image prior to deposition of the barrier layer. This is structurally noted in claim 1 wherein the opaque barrier layer covers the first resist latent image area.

The present rejection by the Office thus includes a structural difference having the first resist latent image area covered by a subsequent layer wherein the first resist is exposed but not developed. With respect to the ‘means for developing’, claim 1 includes a means plus function limitation that specifically recites functional steps that the Office has not considered. Furthermore, the means for developing recited in Claim 1 is not an inherent characteristic of the cited references. Applicant respectfully requests reconsideration and allowance.

In addition, a rejection under 35 USC Sec. 102 requires that *a single reference teach every element of the claim* (MPEP § 2131) [emphasis added]. And, the Office also acknowledges that neither Kaule nor Borodovsky have an “opaque barrier layer” and thus the rejection is traversed by the Office’s own interpretation of these references since a metal layer is not the same as an opaque barrier layer.

In addition, the Office states that in Kaule, “Claims 15 and 16 teach a barrier layer which can be metal between two resist layers.” (Office Action page 2, Item #3). Kaule Par [0052] and

[0053] describe the metal barrier of Kaule, which is distinguishable from the opaque barrier layer described in the present application.

The Office also states that Borodovsky teaches a lithography process which produces a structure with a first developed photoresist (claim 11) and that Claim 15 states there is a barrier layer between the two photoresist layers. However, as noted in Par[0052] "Alternatively, a layer of  $\lambda_1$  radiation absorbing organic or inorganic film may be deposited in between the first and second photoresists to prevent mixing of the first and second resists and prevent exposure of the first resist lines 202 to the third lithography process' radiation." This is not the opaque barrier layer as described in the present application.

Applicant also concurs with the Office that, among other things, the references fail to teach an opaque barrier layer. The Office cannot maintain an Anticipation rejection based on these grounds.

#### ***Improper Designation as a Final Action***

As a preliminary matter, the Examiner has indicated that this office action is final. Applicant respectfully submits that it was improper for the Examiner to make this action final for at least the following reasons.

MPEP § 706.07(a) states that second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is not necessitated by an Applicant's amendment of the claims. The Examiner is kindly reminded that the "applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the examiner to that end, and not be prematurely cut off in the prosecution of his or her application." MPEP § 706.07 (present practice does not sanction hasty and ill-considered final rejections).

In this particular case, Examiner Barrreca issued rejections based on Canavello (U.S. 4,212,935) and Jennison (U.S. 6,156,487). The last response explained that these references were traversed, as Claim 1 was amended to include having a latent image area and that the latent image area is covered by the opaque barrier layer and also explaining that the first resist layer was developed subsequent to the second resist development. By the Office's own admission, neither of these references described an opaque barrier layer.

However, this new ground of rejection was not necessitated by Applicant's amendment as suggested by the Examiner. Thus, the need to cite Kaule and Borodovsky were not necessitated by Applicant's last response. In particular, the Office states that lithographic structures of Kaule and Borodovsky having a first resist layer with a latent image area, an opaque barrier layer and a second resist layer with a latent image. And, in order to establish grounds for rejection, the Office seems to imply that these structures were developed by the same means – having an equivalent means for developing and not related to the opaque barrier layer.

Thus, it appears that the Examiner has introduced new references with new grounds of rejection that were not necessitated by Applicant's amendment of the claims. Accordingly, it was improper for the Examiner to make this action final, and is in violation of MPEP § 706.07(a). Applicant respectfully requests the Examiner to withdraw the finality of this action and enter the enclosed response as a matter of right to place the application in condition for allowance or appeal.

Furthermore, for quality control reasons, the Applicant does not believe that the Office has not properly considered the guidelines for reviewing the 'means plus function' claim limitations. If the Office wishes to reject the means plus function claim elements, it should follow the guidelines and issue the proper rejection in order for the Applicant to formulate an appropriate response.



Applicant believes the above amendments and remarks to be fully responsive to the Office Action, thereby placing this application in condition for allowance. No new matter is added. Applicant requests speedy reconsideration, and further requests that Examiner contact its attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,

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